Claims

1. A multipiston pump,

having a pump housing (10), a motor (22), and an eccentric unit (26a, b) driven by the motor (22), having an arrangement comprising a plurality of piston pumps (76a-f), which are combined hydraulically by means of connecting conduits (32, 33, 36, 37) in the pump housing (10) into at least two pump units (30a, b), and the pump units (30a, b) are operatively in communication with one another on the intake side and on the compression side supply two hydraulically separate hydraulic circuits (I, II) with pressure fluid, and the eccentric unit (26a, b) and the arrangement of piston pumps (76a-f) are adapted structurally to one another in the pump housing (10) such that the piston pumps (76a, b, e) of one pump unit (30a) are always actuated in alternation with the piston pumps (76c, d, f) of the second pump unit (30b), and there is a phase offset between the actuation of the piston pumps (76a, b, e; 76c, d, f) of one pump unit (30a) on the one hand and the actuation of the two pump units (30a, b) on the other, so that the intake phases of at least two piston pumps (76a-f) overlap, without the piston pumps (76a-f) being in phase opposition to one another, characterized in that the eccentric unit has at least two axially spaced-apart cam (26a and 26b); that the piston pumps (76a-f) are located in a number of sectional planes (E1, E2) of the pump housing (10) that correspond to the number of cams (26a, b), and the axial spacing of the cams (26a, b) is essentially equivalent to the axial spacing of these sectional planes (E1, E2); and that

the connecting conduits (32, 33, 36, 37) of the pump units (30a, b) are located in a region of the pump housing (10) defined by these sectional planes (E1, E2).

2. The multipiston pump in accordance with claim 1, characterized in that at least one of the piston pumps (76a-f), combined hydraulically into a pump unit (30a, b), is actuated by a different cam (26a, b) from the respective other piston pumps (76a-f) of the corresponding pump unit (30a, b).

3. The multipiston pump in accordance with claim 2, characterized in that between two successively actuated piston pumps (76a-f) of a pump unit (30a, b), there is a rotary angle spacing in the range of between 110° and 130°, preferably of 120°.

4. The multipiston pump in accordance with one of claims 1 through 3, characterized in that a rotary angle spacing between successive actuations of two piston pumps (76a-f) is in the range of approximately 30° or in the range of approximately 90°.

5. The multipiston pump in accordance with claim 4, characterized in that the cams (26a, b) are rotated by the rotary angle relative to one another; and that the rotary angle spacing of the cams (26a, b) is in the range of approximately 150°.

6. The multipiston pump in accordance with one of claims 1 through 5, characterized in that each cam (26a, b) of the eccentric unit drives at least two piston pumps (76a-f).

7. The multipiston pump in accordance with one of claims 1 through 6, characterized in that the piston pumps (76a-f) that are combined into a pump unit (30a, b) are located spatially immediately adjacent one another in the pump housing (10).

8. The multipiston pump in accordance with one of claims 1 through 7, characterized in that the cams (26a, b) of the pump drive have eccentricities of different sizes.

9. The multipiston pump in accordance with one of claims 1 through 8, characterized in that one piston (78a-f) of at least one of the piston pumps (76a-f) is embodied as a stepped piston and defines two pressure chambers (80a, b) each, which are of variable volume in phase opposition to one another.

10. An electrohydraulic vehicle brake system (56), having an external-force-actuated service brake (58) and a muscle-force-actuated emergency brake (60), each with two brake circuits (I, II), characterized in that the service brake (58) is equipped with a multipiston pump (66) as defined by one of claims 1 through 9.